

Claims

1. Inductive rotary transducer for transmitting data, with a fixed part and a rotating part, with the rotating part and the fixed part having a common virtual rotational axis, and with
5 the rotating part rotating about the fixed part, and with the data transmission being carried out over at least one data transmission path by means of at least one inductive element, and with the data transmission path being arranged outside the rotational axis of the rotary transducer.
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2. Inductive rotary transducer according to claim 1, characterized in that the inductive rotary transducer comprises a housing which has a lead-through enclosing the virtual rotational axis.
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3. Inductive rotary transducer according to claim 1 or 2, characterized in that the inductive element is executed as a transformer with at least one first and one second coil, with the first coil being allocated to the fixed part and the
20 second coil to the rotating part.
4. Inductive rotary transducer according to claim 3, characterized in that the first and the second coil are arranged next to each other in relation to the direction of
25 the virtual rotational axis.
5. Inductive rotary transducer according to claim 3 or 4, characterized in that the first coil is arranged coaxially around the second coil.
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6. Inductive rotary transducer according to one of the claims 3 to 5,

characterized in that the first and/or the second coil are executed as a toroid coil.

7. Inductive rotary transducer according to one of the claims
5 3 to 5,

characterized in that the first and/or the second coil are executed as a planar coil.

8. Inductive rotary transducer according to one of the
10 preceding claims,
characterized in that the inductive element has means for field concentration.

9. Inductive rotary transducer according to one of the
15 preceding claims,
characterized in that the transducer is designed for bidirectional data transmission and has an inductive element for each direction of transmission.

20 10. Inductive rotary transducer according to claim 9,
characterized in that the inductive elements are arranged next to each other in relation to the direction of the virtual rotational axis.

25 11. Inductive rotary transducer according to claim 9,
characterized in that the inductive elements are arranged coaxially nested in each other.

12. Inductive rotary transducer according to one of the claims
30 9 to 11,
characterized in that means for decoupling magnetic fields are arranged between the inductive elements.

13. Inductive rotary transducer according to one of the preceding claims,

characterized in that the transducer is provided for transmitting bus protocols, in particular Fast Ethernet
5 protocols.

14. Inductive rotary transducer according to one of the preceding claims,

characterized in that the inductive rotary transducer is
10 executed as an integrated unit.